

Remarks/Arguments:

Claim Amendments

Claim 1 has been amended to include the limitations of previously presented claim 18. Claim 20 has been added. Support for newly added claim 20 may be found in the Specification at page 2, lines 16-17 and at page 11, lines 7-9. Claim 21 is new. Support for newly presented claim 21 may be found in previously presented claim 1 and newly presented claim 20. Claim 22 is new. Support for newly presented claim 22 may be found in previously presented claim 19. Claim 18 has been amended to depend from claim 21. Finally claim 19 has been amended for an informality to address an objection raised by the Examiner.

No new matter is introduced with these claim amendments. Entry of the claim amendments is respectfully requested.

Section 103 Rejections

Claims 1-3, 8-12, 18 and 19 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over U.S. Patent No. 6,267,474 to Mochizuki (hereinafter “Mochizuki”) in view of U.S. Patent No. 6,193,354 to Ito (hereinafter “Ito”) and U.S. Patent No. 3,708,798 to Hildenbrand et al. (Hereinafter “Hildenbrand”). Applicant respectfully traverses.

In the Advisory Action the Examiner states that the test for obviousness, i.e., test for combining the teachings of Hildenbrand with Mochizuki, “is what the combined teachings of the references would have suggested to those of ordinary skill in the art”. In the advisory Action, however, the Examiner failed to provide any explicit analysis supporting the combination of these references.

In KSR, the Supreme Court stated that “[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design

community or present in the market place; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine known elements in a fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex*, 550 U.S. 398, 418, 127 S.Ct. 1727, 1740-41 (2007). The Court noted that “[t]o facilitate review, this analysis should be made explicit.” *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”) *Id.*

According to the Final Office Action the teaching of Hildenbrand is that the working container and the releasable flexible reservoir have an open connection between them such that during normal operation these form communicating vessels without the presence of a pump between the two reservoirs. (Final Office Action, (bridging paragraph on pages 3-4). Then the Examiner continues to state that the motivation for combining the references is to lower manufacturing and maintenance costs by using fewer elements, to reduce the generation of heat in order to increase productivity and print quality by using a piezoelectric type print head. (Final Office Action. page 4)

Ito, however, does not teach the use a piezoelectric type print head in order to reduce heat generation. Generally, Ito teaches the use of any type of print head. For example, there is no limitation in the claims of Ito to a specific type of print head. Only in the description (column 3, line 43) relating to the embodiment shown in Fig. 1 it is mentioned that the head also includes actuators and piezoelectric elements. Ito, however, does not present any arguments or teachings for using this piezoelectric type of print head. Reduction of heat generation is certainly not taught by Ito. Thus, the motivation to combine the references in an attempt to present a *prima facie* case of obviousness as alleged by the Examiner relating to the use of a piezoelectric print head can not be derived from Ito itself. Therefore, the question where one of ordinary skill in the

art is taught the alleged motivation is not answered by the Examiner. Thus, in accordance with the ruling of KSR, the Examiner has not presented a *prima facie* case of obviousness.

Furthermore, claim 1 requires that the working container is flexible. Now, in Hildenbrand the ink supply manifold 12 having air trap 26 is a rigid container. This is specifically taught by Hildenbrand in column 3, lines 33-50. There it is explained that the air bubble trap serves to regulate pressure fluctuations caused by incompressible liquid pressure waves, by compression of the volume of the air in trap 26. Contrary to the supply manifold 12 the ink bag 30 is expandable itself enabling volume expansion to absorb pressure fluctuations.

In the Advisory Action (top of page 3) the Examiner also argues that the presence of air bubble trap 26 is to prevent the introduction of air into the ink. However, that argument is in contrast to the teachings of Hildenbrand at, for example, column 3, lines 53 ff.: "Another function of air trap 26 is to accumulate and trap bubbles of air and to prevent air bubbles in the ink or the lines and manifold from passing through the system and into the head 14." (emphasis added). That is to say, Hildenbrand does not relate to degassed ink. Contact between ink and air is allowed. If air escapes from the ink, then the air bubbles are trapped in trap 26, because it is undesirable that the air bubbles flow into the tubes and head of the system causing irregular flow. Only excess air is vented manually or automatically, e.g. using a float valve.

As noted in previous responses, Mochizuki notes the criticality of degassed printing medium. (See for example, Mochizuki, column 1, lines 20-24; column 3, lines 16 ff). While Hildenbrand may remove air bubbles from its ink by its air trap, Hildenbrand necessarily contacts its ink with air, thereby not providing for degassed printing medium as defined by the subject specification. The contacting of air with ink in Hildenbrand, as required by its ink trap, will thus destroy the purpose, intent and function of Mochizuki. In other words, modifying Mochizuki with Hildenbrand would make Mochizuki inoperable for its intended purpose, i.e., printing with degassed ink. An inoperable reference, such as Mochizuki modified by Hildenbrand as proposed by the Examiner, cannot form a *prima facie* case of obviousness. *In re*

Gordon et al., 221 U.S.P.Q. 1125, 1127 (CAFC 1984). Indeed, such an inoperable combination is a direct teaching away from the present invention. *Id.* Thus, the combination of Mochizuki and Hildenbrand teaches away from the present invention and therefore does not form a basis for a *prima facie* case of obviousness as alleged by the examiner. (*KSR* at 550 U.S. 416, 127 S.Ct. 1740).

Because the combination of Mochizuki, Ito and Hildenbrand fails to teach or suggest the present invention, for example, *inter alia*, claimed degassed printing medium with claimed open connection, independent claims 1 and 21, and all claims dependent therefrom, are patentably distinct. Therefore, reconsideration and withdrawal of the Section 103 rejections are respectfully requested.

Applicants specifically preserve all previous arguments against the Mochizuki, Ito and Hildenbrand references, which for the sake of brevity, were not represented here.

Claims 4-7 are rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Mochizuki and Ito in view of U.S. Patent Application Publication No. 2003/0071722 to Cole (hereinafter "Cole"). Applicant respectfully traverses.

For the record the Office Action fails to present a *prima facie* case of obviousness here because, *inter alia*, the Hildenbrand reference is not being applied. Accordingly, Applicant respectfully submits that at least the finality of the present Office Action must be withdrawn.

Assuming arguendo that the exclusion Hildenbrand was just an oversight in the Office Action, the inclusion of Hildenbrand here still does not present a *prima facie* case of obviousness. Cole relates to a dump truck tail gate latch monitor. Although it shows a tilting mechanism, this topic is far removed from the technical field of piezo drop-on-demand printing that one of ordinary skill in the art would not be motivated to combine the teachings of Cole as asserted by the examiner. In establishing a *prima facie* case of obviousness, the cited references must be considered for the entirety of their teachings. *Bausch & Lomb, Inc. v. Barnes-Hind*,

Inc., 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). It is impermissible during examination to pick and choose from a reference only so much that supports the alleged rejection. *Id.* It is only through hindsight reconstruction and very selective picking and choosing while ignoring divergent teachings does the Examiner attempt to reach the present invention through the combination of Mochizuki, Ito, (presumably) Hildenbrand and Cole. It is also well established, however, that hindsight reconstruction of a reference does not present a *prima facie* case of obviousness, and any attempt at hindsight reconstruction using Appellant's disclosure is strictly prohibited. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445-46 (Fed. Cir. 1993). Such hindsight reconstruction by the Examiner is clear as, *inter alia*, Cole is related to a dump truck tail gate latch monitor.

Furthermore, the examiner has asserted an overly broad interpretation of claims 4-7 in an attempt to provide analysis for the *Graham* factors under a Section 103 obviousness rejection. Dependent claims 4-7 cannot be read in absence of the independent claim. Independent claim 1 clearly describes that the releasable flexible reservoir is for storing degassed printing medium. The flexible reservoir is in communication with a flexible working container with is arranged in a fixed position relative to the spray nozzle. The mere movement of fluid by gravity, as asserted by the examiner, is not the proper inquiry. Rather, the examiner must consider the movement of fluid from one reservoir or container to another container.

In such a consideration, one of ordinary skill in the art would not be motivated to by the dump truck teachings of Cole in an attempt to arrive at the present invention because, *inter alia*, Cole is not directed in the movement of fluid from one container to another container. Assuming *arguendo* that the examiner may properly consider the open bed 5 of Cole's dump truck as a "container", Cole fails to teach or suggest the transport of material from the bed 5 into another container. The examiner, however, asserts that the open space outside of Cole's bed 5 is another "working container". This cannot be a proper assertion because, *inter alia*, the open space is the final disposition of the product of Cole. In the terms of the present claims, the "open space" of Cole would be the substrate onto which drops of printing medium are deposited via the spray

nozzle, as set forth in independent claim 1. In other words, Cole fails to teach or suggest a “second” container.

Thus, Mochizuki, Ito, (presumably) Hildenbrand and Cole, individually or in combination, fail to teach or suggest the invention as presently defined by claims 4-7. Reconsideration and withdrawal of the rejections of claims 4-7 under 35 U.S.C. § 103(a) are respectfully requested.

Summary

Therefore, Applicants respectfully submit that independent claims 1 and 21, and all claims dependent therefrom, are patentably distinct. This application is believed to be in condition for allowance. Favorable action thereon is therefore respectfully solicited.

Should the Examiner have any questions or comments concerning the above, the Examiner is respectfully invited to contact the undersigned attorney at the telephone number given below.

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The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 08-2461. Such authorization includes authorization to charge fees for extensions of time, if any, under 37 C.F.R § 1.17 and also should be treated as a constructive petition for an extension of time in this reply or any future reply pursuant to 37 C.F.R. § 1.136.

Respectfully submitted,

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